

CLAIMS

What is claimed is:

1. A mold apparatus comprising:
 - a cavity; and
 - a gap in communication with the cavity and the exterior of the mold apparatus for venting vapor wherein the gap is configured such that it allows escape of vapor from the cavity while at the same time does not allow escape of any significant amount of a mixture from the cavity.
2. The mold apparatus of claim 1 wherein when the mixture is added to the mold apparatus, a skin forms on the outer surface of the mixture, and wherein the gap is of a size in combination with the skin that is sufficient to allow escape of vapor from the cavity while at the same time does not allow escape of any significant amount of the mixture from the cavity.
3. The mold apparatus of claim 1 wherein when the mixture is added to the mold apparatus, formation of vapor causes the mixture to substantially fill the cavity and a skin forms on the outer surface of the mixture, and wherein the gap is of a size in combination with the skin that is sufficient to allow escape of vapor from the cavity while at the same time does not allow escape of any significant amount of the mixture from the cavity.

4. The mold apparatus of claim 3 wherein the gap further comprises a first portion and a second portion wherein the second portion is wider than the first portion.
5. The mold apparatus of claim 4 wherein the first portion of the gap has a width that is in a range from about 0.001 inches to about 0.015 inches.
6. The mold apparatus of claim 5 wherein the first portion of the gap has a length that is in a range from about 0.001 inches to about 2 inches.
7. A mold apparatus comprising:
 - a male mold half;
 - a female mold half wherein contact of the male mold half and the female mold half forms a cavity in a desired shape; and
 - a gap in communication with the cavity and the outer surface for venting vapor wherein the gap is configured such that it allows escape of vapor from the cavity while at the same time does not allow escape of any significant amount of a mixture from the cavity.
8. The mold apparatus of claim 7 wherein when the mixture is added to the mold apparatus the formation of vapor causes the mixture to substantially fill the cavity and a skin forms on the outer surface of the mixture, and wherein the gap is of a size that, in combination with the skin, is sufficient to allow escape of vapor from the cavity while at

the same time does not allow escape of any significant amount of the mixture from the cavity.

9. The mold apparatus of claim 8 further comprising a press to hold the male mold half in contact with the female mold half.

10. The mold apparatus of claim 8 further comprising a fastener to hold the male mold half in contact with the female mold half.

11. The mold apparatus of claim 8 wherein the female mold further comprises a first half and a second half held together by a removable fastener, and the gap.

12. The mold apparatus of claim 11 wherein the gap is further comprised of a first portion in communication with the cavity and a second portion in communication with the first portion and the exterior of the mold apparatus and wherein the second portion is wider than the first portion.

13. The mold apparatus of claim 12 wherein the first portion of the gap has a width in a range from about 0.001 inches to about 0.015 inches.

14. The mold apparatus of claim 13 wherein the first portion of the gap has a length in a range from about 0.001 inches to about 2 inches.

15. The mold apparatus of claim 12 wherein the gap is along the horizontal axis of the mold apparatus.

16. The mold apparatus of claim 15 wherein the second portion of the gap is in communication with a channel which is in communication with the exterior of the mold apparatus.
17. The mold apparatus of claim 16 wherein the gap is formed by grooves in at least one of the first half or second half when the first half and the second half are in contact.
18. The mold apparatus of claim 12 wherein the gap is along the vertical axis of the mold apparatus.
19. The mold apparatus of claim 18 wherein the first portion of the gap has a width in a range from about 0.001 inches to about 0.015 inches.
20. The mold apparatus of claim 19 wherein the first portion of the gap has a length in a range from about 0.001 inches to about 2 inches.
21. The mold apparatus of claim 18 wherein the gap is formed by grooves in at least one of the first half or second half when the first half and the second half are in contact.
22. The mold apparatus of claim 8 wherein the male mold further comprises a first half and a second half held together by a removable fastener and the gap.
23. The mold apparatus of claim 22 wherein the gap is further comprised of a first portion in communication with the cavity and a second portion in communication with the first portion and the exterior

of the mold apparatus and wherein the second portion is wider than the first portion.

24. The mold apparatus of claim 23 wherein the gap is along the horizontal axis of the cavity.

25. The mold apparatus of claim 24 wherein the first portion of the gap has a width in a range from about 0.001 inches to about 0.015 inches.

26. The mold apparatus of claim 25 wherein the first portion of the gap has a length in a range from about 0.001 inches to about 2 inches.

27. The mold apparatus of claim 24 wherein the second portion of the gap is in communication with a channel which is in communication with the outside of the mold apparatus.

28. The mold apparatus of claim 27 wherein the gap is formed by grooves in at least one of the first half or second half when the first half and the second half are in contact.

29. The mold apparatus of claim 23 wherein the gap is along the vertical axis of the mold apparatus.

30. The mold apparatus of claim 29 wherein the first portion of the gap has a width in a range from about 0.001 inches to about 0.015 inches.

31. The mold apparatus of claim 30 wherein the first portion of the gap has a length in a range from about 0.001 inches to about 2 inches.

32. The mold apparatus of claim 29 wherein the gap is formed by grooves in at least one of the first half or second half when the first half and the second half are in contact.

33. A method comprising:

adding a mixture to a mold apparatus having a cavity; and

baking the mixture in the mold apparatus until the mixture is form stable;

wherein upon contact of the mixture with the surface of the cavity, a skin is formed on the outer surface of the mixture; and

wherein the mold apparatus comprises a gap such that vapor can exit the cavity of the mold through the gap without substantial loss of the mixture through the gap.

34. The method of claim 33 wherein the skin allows vapor to exit the cavity of the mold through the gap without essentially any loss of the mixture through the gap.

35. The method of claim 33 further comprising the step of heating the mold apparatus prior to addition of the mixture.

36. The method of claim 33 wherein pressure from formation of vapor during heating causes the mixture to substantially fill the cavity of the mold apparatus.

37. The method of claim 33 wherein, under the pressure produced by formation of vapor during heating, the skin is permeable to the vapor but is not permeable to the mixture at the gap.

38. The method of claim 33 wherein the gap further comprises a first portion and a second portion wherein the second portion is wider than the first portion.

39. The method of claim 38 wherein the first portion of the gap has a width that is in a range from about 0.001 inches to about 0.015 inches.

40. The method of claim 39 wherein the first portion of the gap has a length that is in a range from about 0.001 inches to about 2 inches.